UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

AUG 26 2014

MEMORANDUM

SUBJECT: Phase II On-Site Groundwater RCRA Facility Investigation Supplemental Report, Occidental Chemical Corporation, Wichita, Kansas

FROM: Greg McCabe
ENSV/EAMB

TO: Brad Roberts
AWMD/WRAP/KNRP

Per your request, we have completed our review of the Phase II On-Site Groundwater RCRA Facility Investigation Supplemental Report (Supplemental Report), dated June 2014, for the Occidental Chemical site located in Wichita, Kansas. The primary focus of our review was Section 3.0 Exposure Pathway Analysis, though we did review the entire report for any issues related to risk assessment. We also reviewed portions of the Phase II On-Site Groundwater Investigation RCRA facility Investigation Summary Report (Summary Report), dated February 2014, for additional background information. Based on our review, we offer the following comments.

General Comments

1. Our primary concern is with the contaminant screening process that has been employed. It appears that two values have been used for determining COCs and making decisions about the need for further action. These values appear in Table 6 of the Summary Report. The first value is the soil saturation concentration, Csat. This is the concentration above which the soil contaminant may be present in free phase. This high concentration of contaminants is not allowed by EPA risk assessment guidance to be used as a screening value. The text in the report occasionally refers to the Csat as an EPA Industrial Regional Screening Level (RSL; e.g., see page 2, Section 2.1.2). It is not. It is one of the chemical/physical parameters identified in EPA's Regional Screening Table, which can be found at: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm. But it is not a value that is acceptable for risk assessment direct contact screening purposes. Rather, the appropriate screening value which should have been used is either the residential or industrial scenario soil screening value found in EPA's Regional Screening Table. These values are based on a potential excess cancer risk of 1E-06, or a non-cancer risk value equal to a Hazard Index of 0.1, using EPA default exposure assumptions.

   The second screening value discussed in the report is the "area background value". This value assumes that there is an acceptable background concentration of soil contamination by COCs. Although EPA risk assessment guidance allows, and encourages, the identification and use of site background concentrations of naturally-occurring substances, primarily inorganic contaminants, it does not recognize background concentrations of man-made contaminants or

allow their use in risk assessments. The extent and degree of any contamination by man-made organic compounds should be evaluated using the direct contact screening values found in EPA's Regional Screening Table.

Our concern with these screening values is that it appears there is a potential for COCs to have been screened out of any future risk assessment, and for no further action decisions to have been made, based on screening values that are not sufficiently conservative and are not in accordance with EPA risk assessment guidance. We should mention two caveats here. First, page 35 of the Summary Report states that "The area specific background concentrations… are not intended for use as cleanup objectives or for risk assessment purposes". We could find no explanation of this statement in the Summary report. In the Supplemental Report, the area specific background concentrations appear to be used for screening COCs and making no further action decisions, both of which appear to us to be risk assessment purposes. Also, starting on page 6 of the Supplemental Report, when the text mentions industrial RSLs, it appears that the correct RSLs from EPA's Regional Screening Table are sometimes being used. The report contains no explanation as to why EPA's industrial RSLs for direct contact are suddenly being used at particular locations, rather than the Csat.

2. We could find very few surface soil sampling locations or results in either report that we reviewed. Any future HHRA will need to look at the potential for exposure to contaminants in the surface soil. Is the RCRA program aware of other reports which contain adequate surface soil data which can be used in the HHRA?

Specific Comments

3. Page 7, Section 2.4. The text says that no soil samples in the non-process area were identified with concentrations exceeding the background concentration values. However, we were unable to locate the sample results which support this conclusion.

4. Page 11, Section 3.1. The text in the first paragraph identifies five exposure areas shown in Figure 26. These are the five exposure areas identified for inclusion in the HHRA. However, Figure 26 also shows two other areas: a fuel depot area, and stormwater ponds. Does the RCRA program have reason to believe that either or both of these two areas should also be included in the HHRA?

5. Page 11, Section 3.1. The text states that even though there is no plan to develop any portions of the exposure areas for residential purposes, "a hypothetical resident occupying these exposure areas would also be considered in the HHRA as a future resident". However, the next sentence also says that because of planned deed restrictions at some point in the future, "a future hypothetical resident will not be considered in the HHRA". Then, again, on page 14, the text states that "it will be assumed in the HHRA that groundwater could be used for potable purposes in the future for exposure by industrial/commercial workers and off-Site residents." However, none of the scenarios or pathways outlined for inclusion in the CMS in Section 3.5 of the Supplemental Report mention residential exposure at all. We cannot determine from the conflicting information if and when any residential exposure scenarios are to be included in the HHRA.

Please contact me at x7709 if you have any questions regarding our review.